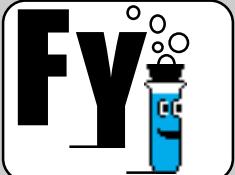


**A CURRENT
EDUCATIONAL
BULLETIN FOR
SUBMITTING LAW
ENFORCEMENT
AGENCIES**

PHONE: 573-526-6134
FAX: 573-751-9922



DO NOT SUBMIT WET/MOIST DNA EVIDENCE (TAMPOONS, SWABS, ETC) IN PLASTIC OR GLASS CONTAINERS. PLACE DNA ITEMS IN PAPER PACKAGING ONLY.

WHEN OBTAINING BUCCAL REFERENCE STANDARDS, COLLECT AT LEAST TWO COTTON SWABS (JUST ONE IF USING A C.E.P. SWAB), AND LABEL THE CONTAINER WITH THE SUBJECT'S NAME.

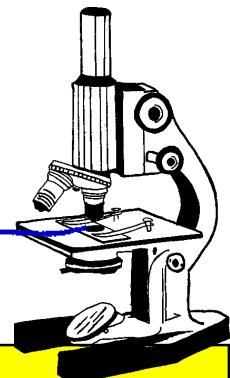
STATE SEXUAL ASSAULT KITS NO LONGER CONTAIN A BLOOD TUBE FOR VICTIM REFERENCE STANDARD COLLECTION. INSTEAD, BUCCAL SWABS ARE TO BE USED. IF AN ORAL SEXUAL ASSAULT IS ALLEGED, THEN COLLECT MOUTH SWABS FOR SEMEN DETECTION. OBTAIN BLOOD IN A PURPLE CAPPED BLOOD TUBE FOR USE AS A REFERENCE STANDARD IN THIS TYPE OF SITUATION.



SEPTEMBER, 2007
VOLUME 7 • ISSUE 1

A Closer Examination From The Benchtop...

Under the Scope



MISSOURI STATE HIGHWAY PATROL • CRIME LABORATORY DIVISION

Help Control The DNA Backlog

Over the past few years, the DNA section of the lab has brought several new procedures and techniques on-line. Unlike the DNA methods of the recent past that required a considerable amount of biological material, analysts are now able to develop profiles from a variety of low level DNA sources, such as cigarette butts, hats, and touched surfaces. Moreover, analysts have the capability to resolve female/male mixtures with Y chromosome (male specific) profiling. The use of these techniques has greatly increased the probability of generating DNA profiles. In turn, our submitting agencies have noticed the achievements made with these types of specimens (including the success rate with the CODIS DNA database) and, therefore, have begun to submit cases at an extraordinary rate. With all of these factors in motion, the lab has several requests for our submitting agencies to consider in order to streamline the DNA process to lower case turn around time and increase analyst productivity.

Limiting the amount of evidence submitted in a case will have a noticeable impact in the streamlining process. Many DNA cases are received that have upwards of 10-20 items. In certain instances, this amount of evidence may be necessary. Most often, though, it causes delays throughout the lab system: receiving and relaying the property, securing all of the containers in limited evidence locker storage space, and deciding whether information can be gained through lab analysis. Please be judicious in the number of items you submit to the lab.

Submitting the best, most probative evidence is also crucial. The submitting agency has the option to collect an unlimited amount of evidence from a crime scene, but only the most applicable items should be submitted to the lab first. If an answer is not reached after examining the most significant pieces of evidence, then we can always discuss the possibilities of submitting further items. Determine what questions you need answered when deciding what to submit. For example, when a victim is shot, submission of the victim's clothing may be unnecessary. Finding the victim's own DNA in blood on his/her own clothing would be expected and doesn't assist with the case resolution. Instead, it may be more valuable to submit the suspect's clothing for blood analysis, or perhaps some item the suspect may have come into contact with to place him/her at the scene. For a sexual assault case, for instance, first submit the kit, victim clothing, and reference standards from all associated individual(s), if known.

Reference standards are critical in DNA analysis. The lab is receiving fewer standards, with the agencies often relying on database hits. CODIS should be, in essence, used

mainly for the unknown suspect cases. In the event of a hit, a standard is still necessary for confirmation of the offender collection since the offender sample cannot be used as evidence. If you feel that a person is truly associated with a crime and won't submit a standard, then a warrant may be necessary. Furthermore, waiting for standards to complete a case adds to total case completion time.

DNA analysis is not productive in certain circumstances, such as with feces, urine, water soaked clothing, burnt or soiled items, etc. Analysis of these samples will take time away from work on more probative evidence. Keep in mind that DNA may not be the only discipline that can aid your investigation.

The lab will make informed decisions regarding the evidence submitted. For instance, if we detect semen on a vaginal swab and develop a profile that is consistent with the suspect, then the analyst probably will not proceed with additional pieces of evidence. When an association is established between a victim and a suspect on the most intimate sample possible, in most instances there is no need for further testing, such as profiling semen from the victim's clothing or bedding. The reasoning is that the further removed the sample is from the victim, the more explainable possibilities there are as to how the DNA was deposited.

Please inform the lab if the status of your case changes. Analysts have spent many hours examining evidence, only to learn after case completion that it was no longer active, or the suspect had already pled.

The DNA section has received 737 cases during the first six months of 2007, which is as many cases as received in all of 2004. We have also realized a 50% increase in cases submitted in the first half of 2007 over the first half of 2006. The lab's purpose is to provide the best quality forensic testing possible for every one of our agencies, at a reasonable expense to the State, in the most timely fashion. We are here to serve the best way we can while still being sensible with our resources, which is exactly why we're asking for your assistance. Testing all items in a case may not be a prudent use of time or resources, and may not even be scientifically sound. Experience over the years helps us to determine the best course of action for the evidence from a scientific perspective. Therefore, if you have a non-routine piece of evidence, have several items to submit, or wish to have evidence examined that has been streamlined from lab analysis after you have evaluated the lab report, please call us. We strive to be very approachable and are more than willing to explain our reasoning as well as discuss the best practical solution for all of us.